

**Practice**

For use with pages 470–474

Tell whether the number is *rational* or *irrational*.

1.  $\frac{1}{7}$

2.  $\sqrt{\frac{1}{7}}$

3.  $1.\overline{12}$

4.  $-\sqrt{17}$

5.  $-\sqrt{\frac{8}{2}}$

6.  $\sqrt{\frac{21}{3}}$

7.  $\frac{\sqrt{5}}{16}$

8.  $\frac{\sqrt{16}}{5}$

Complete the statement using  $<$ ,  $>$ , or  $=$ .

9.  $\sqrt{\frac{1}{4}} \text{ — } \frac{1}{4}$

10.  $4 \text{ — } \sqrt{\frac{32}{2}}$

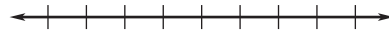
11.  $-\sqrt{8} \text{ — } -\frac{10}{3}$

In Exercises 12–15, use a number line to order the numbers from least to greatest.

12.  $\frac{12}{11}, \sqrt{1.1}, \frac{\sqrt{10}}{3}, \sqrt{\frac{10}{3}}$



13.  $4.2, \sqrt{17}, \frac{17}{4}, \sqrt{\frac{81}{5}}$



14.  $\sqrt{\frac{5}{9}}, \frac{2}{3}, \sqrt{\frac{7}{9}}, 0.7514, 0.\overline{75}$



15.  $\sqrt{31}, 5.5, \frac{\sqrt{75}}{2}, \frac{28}{5}, \sqrt{\frac{55}{2}}$



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- 16.** One leg of a right triangle is 6 inches long. The other leg is 8 inches long. Is the length in inches of the hypotenuse a *rational* or *irrational* number?

- 17.** From a balcony, you drop a penny 50 feet to the ground. The time  $t$  in seconds it takes the penny to hit the ground is approximated by  $t = \sqrt{\frac{25}{8}}$ . Does  $t$  represent a rational or an irrational number of seconds? Give the value of  $t$  to the nearest hundredth of a second.

- 18.** You want to buy some frozen pizzas that have a diameter of 18 inches. You need to be able to fit them into your upright freezer that has a capacity of 4.5 cubic feet. The storage compartment of the freezer is 2 feet high. The width and depth of the compartment can be found using the expression  $\sqrt{\frac{4.5}{2}}$ . Will the pizzas lay flat on the shelves of your freezer? Explain.

- 19.** Use a right triangle to graph  $\sqrt{8}$  on a number line.

